

09/758,715

**REMARKS**

The Applicant would like to thank the Examiner for the analysis contained in the Examination Report dated March 18, 2003.

Claims 25-37 and 46 are presently pending in this application while the remaining claims are canceled from this case.

First, the drawings are objected to for the reasons noted in the official action. All of the raised drawing objections are believed to be overcome by the requested drawing amendments accompanying the attached submission. If any further amendment to the drawings is believed necessary, the Examiner is invited to contact the undersigned representative of the Applicant to discuss the same. New formal drawings will follow once the Examiner approves the requested drawing amendments.

Next, claims 25 and 45 presently stand rejected as being anticipated by Smith et al. '124. The Applicant acknowledges and respectfully traverses the raised anticipatory rejection in view of the following remarks.

Smith et al. '124 teaches a method of fabrication of a pressure sensor having a pressure membrane 20. The teaching of Smith et al. '124, as summarized in column 2 commencing at line 55, is:

"By selecting silicon having a specific crystal orientation, such as (410) which has an orientation of 45 degrees with respect to the (111) planes, in combination with silicon having another specific orientation, such as (100) which has an orientation of 54.7 degrees with respect to the (111) planes, a configuration can be achieved which conveys light directly between an optic fiber positioned in almost any direction relative to the sensing membrane and the sensing membrane."

The Examiner has characterized Smith et al. '124 as being "monolithic bulk crystal silicon" and has referred the Applicant to Fig. 2 of the Smith et al. '124 reference. The Examiner has given a broad definition to the term "monolithic" when he characterizes the Smith et al. '124 reference as teaching a monolithic body as the crystal of Smith et al. '124 is

intentionally made up of different types of silicon while the term "monolithic" is frequently understood to have the general meaning of comprised of a single part.

In response, however, the Applicant has amended pending claims 25 and 45, to distinguish over the Smith et al. '124 reference, by adding the limitation that the monolithic bulk crystal silicon is "homogeneous". The use of a homogeneous monolithic bulk crystal silicon is contrary to the specific teachings of Smith et al. '124.

The Applicant and those of ordinary skill in the arts are generally aware and agree that it would be extremely difficult, if not impossible, to post process a device produced by following the teachings of the Smith et al. '124 reference. This is due to the differing properties of the different types of silicon which make up the device. For example, while the 410 silicon may provide the desired 45 degree plane (45.56 degrees, actually) relative to the surface 410 crystal plane, etching of that 410 silicon to achieve the desired 45 degree plane is a fast etch on all other planes. The 410 silicon is extremely delicate to work with as the resulting structure tends to undercut and assume a trapezoidally etched shape.

Although the Examination Report states that claims 25 and 45 stand rejected as being unpatentable over Stanley '658 in view of Madou, it is believed that this is a clerical error and that the combination intended by the Examiner was Smith et al. '124 in view of Madou. The references to figures and reference numerals can be followed in the Smith et al. '124 reference, but do not appear to relate to the Stanley '658 reference.

As set forth above, the Applicant has already argued why the teachings of the Smith et al. '124 reference do not anticipate the present invention as recited in amended claims 25 and 45 and, it is respectfully submitted, diverge substantially from the teachings of the present application. That is, Smith et al. '124 teaches combining silicon with different properties in order to create a device with the desired combination of planes while the present invention teaches to the contrary in teaching the use of homogeneous monolithic bulk crystal silicon.

Considering Smith et al. '124 in comparison to the teachings of Madou, the teachings of Smith et al. '124 are to use different types of silicon to take advantage of their differing properties. The teaching of Madou relates to the positioning of the planes and difficulties involved in exposing those planes, including such problems as undercutting (pages 152 and 153) and controlling of the etching process. It is respectfully submitted that when one combines the teachings of Smith et al. '124 with the teachings of Madou, it would reinforce the teaching of Smith et al. '124, that Smith et al. '124 is on the right track in selecting different types of silicon with different plane orientation to arrive at the desired configuration.

The Applicant has gone against this conventional wisdom, however, in teaching the use of homogeneous monolithic bulk crystal silicon, thereby teaching directly against the teachings of both Smith et al. '124 and Madou. In doing so, the Applicant has achieved an atomically smooth mirror surface, along with a greater ability for post processing than would be possible by following the teachings of Smith et al. '124 or the combined teachings of Smith et al. '124 and Madou.

It is, therefore, the belief and position of the Applicant that the present invention as recited in amended claims 25 and 45 is fully distinguished over and from the teachings of Smith et al. '124 under 35 U.S.C. § 102 and the teachings of Smith et al. '124 in view of Madou under 35 U.S.C. § 103 for the reasons discussed above.

The Applicant, therefore, respectfully requests that the Examiner reconsider and withdraw all rejections of claims 25 and 45 over Smith et al. '124 under 35 U.S.C. § 102 and over Smith et al. '124 in view of Madou under 35 U.S.C. § 103, and the allowance of claims 25 and 45.

In view of the above amendments and remarks, it is respectfully submitted that all of the raised rejection(s) should be withdrawn at this time. If the Examiner disagrees with the Applicant's view concerning the withdrawal of the outstanding rejection(s) or applicability of the Smith et al. '124 and/or Madou references, the Applicant respectfully requests the Examiner

to indicate the specific passage or passages, or the drawing or drawings, which contain the necessary teaching, suggestion and/or disclosure required by case law. As such teaching, suggestion and/or disclosure is not present in the applied references, the raised rejection should be withdrawn at this time. Alternatively, if the Examiner is relying on his/her expertise in this field, the Applicant respectfully requests the Examiner to enter an affidavit substantiating the Examiner's position so that suitable contradictory evidence can be entered in this case by the Applicant.

In view of the foregoing amendments and arguments, it is respectfully submitted that the present application is now in a condition for allowance. The Applicant, therefore, respectfully requests the entry of the amendments submitted herein, the withdrawal of the finality of the present action, and the early issue of a Notice of Allowance.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,



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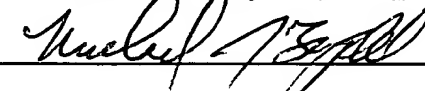
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